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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Ali Najib Saleh

M-9830 US

9442

7590

08/11/2005

Justin M Dillon

Campbell Stephenson Ascolese LLP

Bldg 4 Suite 201

4807 Spicewood Springs Road

Austin, TX 78759

EXAMINER

CHO, HONG SOL

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 08/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/891,022

Applicant(s)

SALEH ET AL.

Examiner

Hong Cho

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-113 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 113 is/are allowed.
- 6) ☒ Claim(s) 1-7, 14, 16, 17, 29-35, 42, 44, 45, 57-63, 70, 72, 73, 85-91, 98, 100 and 101 is/are rejected.
- 7) ☒ Claim(s) 8-13, 15, 18-28, 36-41, 43, 46-56, 64-69, 71, 74-84, 92-97, 99 and 102-112 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>06232005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is in response to the amendment filed on 6/7/2005. Claims 1-113 are pending in the instant application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102(e) that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 29-31, 57-59 and 85-87 are rejected under 35 U.S.C. 102(e) as being anticipated by Azuma et al (U.S 6430150), hereinafter referred to as Azuma.

Re claims 1, 2, 29, 30, 57, 58, 85 and 86, Azuma discloses restoring traffic on alternate virtual path (*restoring a virtual path using an alternate physical path*, abstract). Azuma discloses an alternate path computing part computing topology information to find alternate paths by referring to the physical topology information (*identifying a plurality of nodes with resources, wherein nodes with resources are ones of said nodes having a resource necessary to support virtual path*, column 8, lines 13-17). Azuma discloses executing topology computation by using the physical and logical topology

tables (*identifying an alternate path in response to said identifying said plurality of nodes with resources, said alternate path comprising ones of said nodes with resources*, column 10, lines 24-43; figure 8, elements 11-13 and 18).

Re claims 3, 31, 59 and 87, Azuma discloses configuring an alternate physical path by establishing a communication connection between nodes with resources and provisioning virtual path over the alternate physical path (column 8, lines 20-26).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 4-7, 14, 16, 17, 32-35, 42, 44, 45, 60-63, 70, 72, 73, 88-91, 98, 100 and 101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azuma in view of Finn et al (U.S 6728205), hereinafter referred to as Finn.

Re claims 4, 32, 60 and 88, Azuma discloses detecting a failure in a virtual path by receiving a failure message packet (column 8, lines 4-5) and restoring virtual path for mesh networks (column 1, lines 8-10). Azuma fails to disclose provisioning a virtual path on a physical path between a first and a second node of an optical network wherein each one of nodes is coupled to at least one another of nodes by a plurality of optical links. Finn discloses network nodes connected through fiber optic cables and re-routing

messages through a secondary path in case a primary path fails (column 16, lines 1-8). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Azuma to be used in optical network of Finn. The motivation is to get the benefit of high-speed network communications through fiber optic cables so that a prompt restoration is achieved through high-speed fiber optic communications.

Re claims 5, 6, 33, 34, 61, 62, 89 and 90, Azuma discloses all of the limitation of the base claim, but fails to disclose restoring a virtual path less than 2 seconds or 250 milliseconds. Finn discloses restoration time being about 50 milliseconds. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the system of Azuma to be recovered less than 200 milliseconds by employing the concept of automatic protection switching in an optical network of Finn. The motivation is to provide fast restoration scheme and time so that switching to an alternate virtual path is transparent.

Re claims 7, 35, 63 and 91, Azuma discloses detecting a failure in a virtual path by receiving a failure message packet (column 8, lines 4-5).

Re claims 14, 16, 42, 44, 70, 72, 98 and 100, Azuma discloses intermediate nodes receiving a failure message (column 5, lines 15-17).

Re claims 17, 45, 73 and 101, Azuma discloses acknowledging a failure message and changing a state of the virtual path to down and releasing resources of the virtual path (column 6, lines 41-51; column 8, lines 15-18).

Allowable Subject Matter

6. Claim 113 is allowable.

The following is an examiner's statement for reasons for allowance.

Claim 113 is allowable over the prior art of record since the cited references taken individually or in combination fail to particularly teach or fairly suggest restoring a virtual path in an optical network wherein changing a state of virtual path to restoring and identifying an adjacent node with required bandwidth for a virtual path and forwarding a resource request packet to an adjacent node with required bandwidth for a virtual path and waiting for a resource response packet for a predetermined time interval and if the resource response packet is not received within a predetermined time interval, repeating the above procedure for a predetermined threshold times.

Response to Arguments

7. Applicant's arguments filed 6/7/2005 have been fully considered but they are not persuasive.

On page 37 Applicant argues that Azuma does not disclose identifying the alternate physical path in response to identifying a plurality of nodes with resources. The Examiner respectfully disagrees. Azuma discloses determining alternate paths by using the physical and logical topology information that have identified the plurality of nodes with resources. On page 40 Applicant argues that the Examiner has failed to make a

prima facie case for obviousness. The Examiner respectfully disagrees. Azuma provides enough suggestion or motivation as even indicated by the Applicant and Finn discloses the details of how to execute the system of Azuma to be used in optical network of Finn to achieve a prompt restoration through high-speed fiber optic communications. Therefore, the Examiner concludes that the rejection of claims stands.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hong Cho whose telephone number is 571-272-3087. The examiner can normally be reached on Mon-Fri during 7 am to 4 pm.

Art Unit: 2662


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-3088.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

hc

Hong Cho
Patent Examiner
8/9/2005


JOHN PEZZLO
PRIMARY EXAMINER